REMARKS

The present application was filed on August 14, 2001 with claims 1-20. Claims 21-24 were added in the Amendment and Response to Office Action dated September 7, 2005. Claims 1 through 24 are presently pending in the above-identified patent application. Claims 1, 5, 8, 11, and 17-20 are proposed to be amended herein. A Request for Continued Examination is being submitted herewith.

In the final Office Action, the Examiner rejected claims 19 and 20 under 35 U.S.C. §101 because the claimed invention is directed to non-statutory subject matter, and rejected claims 21-24 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner rejected claims 1-3, 5-7, 11, 13-22, and 24 under 35 U.S.C. §102(e) as being anticipated by Nations et al. (United States Patent Number 6,879,808), rejected claims 4, 8-10, and 23 under 35 U.S.C. §103(a) as being unpatentable over Nations et al. and Sen et al. (United States Patent Number 6,691,312), and rejected claim 12 under 35 U.S.C. §103(a) as being unpatentable over Nations et al. and Shimomura et al. (United States Patent Number 6,526,580).

Section 101 Rejections

Claims 19 and 20 were rejected under 35 U.S.C. §101 because the claimed invention is directed to non-statutory subject matter. In the Response to Arguments section of the final Office Action, the Examiner asserts that a computer readable medium as defined by Applicant on page 18 of the specification may be a recordable medium or a transmission medium and, as previously indicated, a transmission medium is not a tangible medium. In the Advisory Action, the Examiner referred Applicants to pages 50-57 of the recently published "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility."

Applicants note that the term "tangible" means "having substance or material existence." (See, dictionary.com.) Contrary to the Examiner's assertion, a ***transmission medium is a tangible entity, consisting of radio waves, light waves, electronic signals, etc.*** Claims 19 and 20 require a *computer readable medium having computer readable code means embodied thereon*, and are therefore limited to *tangible* embodiments.

Regarding the Examiner's reference to the published guidelines, Applicants note that the cited guidelines teach that,

> from a technological standpoint, ***a signal encoded with functional descriptive material is similar to a computer-readable memory encoded with functional descriptive material, in that they both create a functional interrelationship with a computer***. In other words, a computer is able to execute the encoded functions, regardless of whether the format is a disk or a signal.
> (Second to last paragraph on page 57; emphasis added.)

Regarding a computer-readable memory encoded with functional descriptive material, the published guidelines teaches that,

> when functional descriptive material is recorded on some computer-readable medium ***it becomes structurally and functionally interrelated to the medium and will be statutory in most cases*** since use of technology permits the function of the descriptive material to be realized.
> (Page 50, second paragraph; emphasis added.)

As noted above, claims 19 and 20 require a *computer readable medium having computer readable code means embodied thereon.* Applicants note that computer readable code means is classified as functional descriptive material and that claims 19 and 20 are therefore directed to statutory subject matter. Applicants respectfully request that the section 101 rejections be withdrawn.

Section 112 Rejections

Claims 21-24 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Examiner asserts that the limitation "a state of a cache model" renders the claims indefinite since a cache model is not defined in the specification.

Applicants note that the present disclosure teaches that

> ***a number of state variables*** are used by the broadcast download scheduling process 700. The UCacheSize variable 713 defines the size of a "virtual" client-side cache presumed to be at the receiver's end (an abstraction of the client side broadcast cache). Notice that this "virtual" cache will not correspond to any real client cache, rather it represents what an "average" user might have in their cache. ***The variable UCacheModel 714 defines the current fullness of this "virtual" cache at***

> ***any point in time.*** The value UCacheDrainInterval 715 is a constant that is used to determine how frequently the list, URLList, is scanned once the "virtual" cache is full (as it normally will be). The value UCacheDrainBytes 716 is a constant that is used to determine how quickly the "virtual" cache will drain. Notice that UCacheDrainBytes/UCacheDrainInterval defines a rate, that is, the imagined client side "leaky bucket." It is noted that for each entry, if the value refresh interval 506 is greater than the value UcacheDrainInterval, then the content should drop out of the clients cache periodically even with a high normalized Recent hit rate, if the value is less then it should not.
> (Page 13, lines 3-17; emphasis added.)

Thus, the present disclosure teaches a "state of a cache model." In any case, a state of a cache model is well known and understood by a person of ordinary skill in the art. Applicants therefore respectfully request that the section 112 rejections be withdrawn.

Independent Claims 1, 5, 8, 11 and 17-20

Independent claims 1, 5, 11, and 17-20 were rejected under 35 U.S.C. §102(e) as being anticipated by Nations et al., and claim 8 was rejected under 35 U.S.C. §103(a) as being unpatentable over Nations et al. and Sen et al. Regarding claims 1, 17, and 19, the Examiner asserts that Nations discloses broadcasting said content of interest to multiple users (col. 9, lines 64, to col. 10, line 7) for storage in a client-side cache (col. 8, lines 52-58). In the Response to Arguments section of the final Office Action, the Examiner asserts that Nations discloses that the "content broadcast is prioritized based *on a hit rate* (the number of times a webpage has been requested)." In the Advisory Action, the Examiner maintains that "the tracking of web pages requests in Nations system in order to determine the most requested web pages is analogous to Applicant's claimed hit rate."

Applicants note that Nations teaches "to automatically broadcast ***the most requested information*** (such as a predetermined number of the most requested web pages, for example) to terminals in a substantially real-time manner." (Col. 3, lines 48-51; emphasis added.) The present disclosure teaches that

> the recent hit rate field 502 contains a value representing the hit rate for this particular URL over some recent period. It is assumed that the recent hit rate is a real number in the range [0..1], where a value of

> zero indicates a very low hit rate and a value of one indicates a very high hit rate.
> (Page 9, lines 24-27.)

The present disclosure also teaches that "in an exemplary implementation, the recent hit rate is *computed by dividing the number of URL hits (as measured by the cache over the past hour) by the previous all time peak rate for any URL over any hour.*" (Page 10, line 26, to page 11, line 2; emphasis added.) In addition, Merriam-Webster's Dictionary of Law defines rate as *"a quantity, amount, or degree of something measured* ***per unit of something else.***" (See, dictionary.com; emphasis added.) Independent claims 1, 5, 8, 11 and 17-20, as amended, require wherein said broadcast of said content is ***prioritized based on a hit rate*** of said content and wherein said ***hit rate is a ratio of a number of hits per unit of time.*** Nations does not disclose or suggest that the predetermined number of the most requested web pages is a ***hit rate that is a ratio of a number of hits per unit of time.***

Thus, Nations et al. and Sen et al., alone or in combination, do not disclose or suggest wherein said broadcast of said content is prioritized based on a hit rate of said content and wherein said hit rate is a ratio of a number of hits per unit of time, as required by independent claims 1, 5, 8, 11 and 17-20, as amended.

Additional Cited References

Sen was also cited by the Examiner for its disclosure of a system for broadcasting content to multiple users simultaneously based on a derived transmission schedule. Sen, however, does not address the issue of broadcasting content that is ***prioritized based on a hit rate*** of the content, wherein the ***hit rate is a ratio of a number of hits per unit of time.***

Thus, Sen et al. do not disclose or suggest wherein said broadcast of said content is prioritized based on a hit rate of said content and wherein said hit rate is a ratio of a number of hits per unit of time, as required by independent claims 1, 5, 8, 11 and 17-20, as amended.

Shimomura was also cited by the Examiner for its disclosure of a content broadcasting service where broadcasted content is stored (cached) *if the content matches a category (interest parameters) selected by the user.* Independent claims 1, 5, 8, 11 and

17-20 require wherein said broadcast of said content is ***prioritized based on a hit rate*** of said content and wherein said ***hit rate is a ratio of a number of hits per unit of time***.

Thus, Shimomura et al. do not disclose or suggest wherein said broadcast of said content is prioritized based on a hit rate of said content and wherein said hit rate is a ratio of a number of hits per unit of time, as required by independent claims 1, 5, 8, 11 and 17-20, as amended.

Dependent Claims 2-4, 6-7, 9-10, 12-16 and 21-24

Dependent claims 2-3, 6-7, 13-16, 21-22, and 24 were rejected under 35 U.S.C. §102(e) as being anticipated by Nations et al., claims 4, 9-10, and 23 were rejected under 35 U.S.C. §103(a) as being unpatentable over Nations et al. and Sen et al., and claim 12 was rejected under 35 U.S.C. §103(a) as being unpatentable over Nations et al. and Shimomura et al.

Claims 2-4 and claim 21, claims 6-7 and claim 22, claims 9-10 and claim 23, and claims 12-16 and claim 24, are dependent on claims 1, 5, 8, and 11, respectively, and are therefore patentably distinguished over Nations et al., Sen et al., and Shimomura et al. (alone or in any combination) because of their dependency from amended independent claims 1, 5, 8, and 11 for the reasons set forth above, as well as other elements these claims add in combination to their base claim.

All of the pending claims, i.e., claims 1-24, are in condition for allowance and such favorable action is earnestly solicited.

If any outstanding issues remain, or if the Examiner has any further suggestions for expediting allowance of this application, the Examiner is invited to contact the undersigned at the telephone number indicated below.

The Examiner's attention to this matter is appreciated.

Respectfully submitted,

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